

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

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SIEMENS GAMESA )  
RENEWABLE ENERGY A/S, )  
                  )  
                  Plaintiff, )  
                  )  
                  )  
v.               )                         CIVIL ACTION  
                  )                         NO. 21-10216-WGY  
GENERAL ELECTRIC CO., )  
                  )  
                  )  
Defendant.      )

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YOUNG, D.J.

October 28, 2021

**MEMORANDUM & ORDER**

The plaintiff Siemens Gamesa Renewable Energy A/S ("Siemens") and the defendant General Electric Co. ("GE") ask this Court to construe seven patent claim terms (each a "JCCS Term") listed in their joint claim construction statement. This Court sets forth its constructions infra Section IV.

**I. INTRODUCTION**

Siemens owns United States Patent No. 9,279,413 (the "'413 Patent") and United States Patent No. 8,575,776 (the "'776 Patent"). First Am. Compl. Patent Infringement & Jury Demand ("Am. Compl.") ¶¶ 1, 23, 32, ECF No. 95; see generally id. Ex. A, U.S. Patent No. 8,575,776 ("'776 Patent"), ECF No. 95-1; id. Ex. B, U.S. Patent No. 9,279,413 ("'413 Patent"), ECF No. 95-2. The '413 Patent "is directed generally to a wind turbine, and specifically to a novel structural support arrangement for the

turbine that enables wind turbines to be larger and/or handle increased loads, which in turn allows the wind turbine to generate more energy.” Am. Compl. ¶ 33. The ‘776 Patent “discloses a wind turbine with an improved stator, which improves the operation of the wind turbine and simplifies the maintenance of the wind turbine.” Id. ¶ 24. “Specifically, the stator is configured in a manner that provides a rigid structure capable of withstanding all forces during operation of the wind turbine.” Id. “The configuration of the stator also provides improved ventilation to the generator when the wind turbine is in operation, which in turn cools the components of the generator, thereby providing improved performance and extending the lifespan of those components.” Id.

Siemens sued GE for infringement of the ‘413 Patent and ‘776 Patent in the United States District Court for the Middle District of Florida. Compl. Patent Infringement & Jury Demand, ECF No. 1. The case was transferred to this Court by consent. Order, ECF No. 43. The parties have since filed briefs in support of their proposed claim constructions. Joint Claim Construction Statement (“JCCS”), ECF No. 79; Def. General Electric Company’s Claim Construction Br. (“Def.’s Br.”), ECF No. 90; Siemens Gamesa Renewable Energy A/S’s (“SGRE”) Opening Claim Construction Br. (“Pl.’s Br.”), ECF No. 91; Siemens Gamesa Renewable Energy A/S’s (“SGRE”) Responsive Claim Construction

Br. ("Pl.'s Resp."), ECF No. 99; Def. General Electric Company's Resp. SGRE's Opening Claim Construction Br. ("Def.'s Resp."), ECF No. 100.

This Court held a Markman hearing on September 16, 2021. See generally Tr. Markman Hr'g, ECF No. 113. After oral argument, this Court construed six terms and took one under advisement. Id. 42-43. This Court then invited the parties to file supplemental briefing regarding the term taken under advisement. Id. 44-46; see generally Def. General Electric Company's Suppl. Claim Construction Br. ("Def.'s Suppl. Br."), ECF No. 119; Siemens Gamesa Renewable Energy A/S's ("SGRE") Suppl. Claim Construction Br. ("Pl.'s Suppl. Br."), ECF No. 121; Siemens Gamesa Renewable Energy A/S's ("SGRE") Resp. General Electric Company's Suppl. Claim Construction Br. ("Pl.'s Suppl. Resp."), ECF No. 122; Def. General Electric Company's Resp. SGRE's Suppl. Claim Construction Br. ("Def.'s Suppl. Resp."), ECF No. 124.

## **II. LEGAL STANDARDS**

### **A. Claim Construction**

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quotations omitted). Defining these contours typically "is a matter of law exclusively for the

court." Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). "In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." Teva Pharm. USA, Inc. v. Sandoz, Inc., 574 U.S. 318, 331 (2015). "In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the 'evidentiary underpinnings' of claim construction that we discussed in Markman, and this subsidiary factfinding must be reviewed for clear error on appeal." Id. at 332.

"The words of a claim are generally given their ordinary and customary meaning, which is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." Ruckus Wireless, Inc. v. Innovative Wireless Sols., LLC, 824 F.3d 999, 1002 (Fed. Cir. 2016) (brackets and quotations omitted). "There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." Thorner v. Sony Computer Ent. Am. LLC, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The

standards for both exceptions are "exacting." See id. at 1365-66.

"In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." Phillips, 415 F.3d at 1314 (citing Brown v. 3M, 265 F.3d 1349, 1352 (Fed. Cir. 2001) (stating that terms which "are not technical terms of art . . . do not require elaborate interpretation")). A term needs no construction when "the plain and ordinary meaning of the disputed claim language is clear." See Summit 6, LLC v. Samsung Elecs. Co., 802 F.3d 1283, 1291 (Fed. Cir. 2015).

In other cases, however, "[a] determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., 521 F.3d 1351, 1361 (Fed. Cir. 2008); see Kaneka Corp. v. Xiamen Kingdomway Grp. Co., 790 F.3d 1298, 1304 (Fed. Cir. 2015) (recognizing that a term "may have more than one plain and ordinary meaning"); Goldenberg v. Cytogen, Inc., 373 F.3d 1158, 1164 (Fed. Cir. 2004) (recognizing that a term may have "no ordinary and customary meaning").

Thus, where the parties dispute the plain and ordinary meaning of a term, a court cannot instruct the jury to give the term its plain and ordinary meaning. See Eon Corp. IP Holdings v. Silver Spring Networks, 815 F.3d 1314, 1318-20 (Fed. Cir. 2016). Rather, the court must construe the term's plain and ordinary meaning. NobelBiz, Inc. v. Glob. Connect, L.L.C., 701 F. App'x 994, 997 (Fed. Cir. 2017) (nonprecedential); see AFG Indus., Inc. v. Cardinal IG Co., 239 F.3d 1239, 1247 (Fed. Cir. 2001) ("It is critical for trial courts to set forth an express construction of the material claim terms in dispute."); Sulzer Textil A.G. v. Picanol N.V., 358 F.3d 1356, 1366 (Fed. Cir. 2004) ("[T]he district court must instruct the jury on the meanings to be attributed to all disputed terms used in the claims in suit so that the jury will be able to intelligently determine the questions presented." (quotations omitted)). To do otherwise would be to "invite the jury to . . . decide the meaning of a particular claim term" in violation of Markman. Verizon Servs. Corp. v. Cox Fibernet Va., Inc., 602 F.3d 1325, 1334 (Fed. Cir. 2010).

In determining the plain and ordinary meaning of a term, courts "first look to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive." Personalized Media Commc'ns, LLC v. Apple Inc.,

952 F.3d 1336, 1340 (Fed. Cir. 2020) (quotations omitted).

Although the specification "is the single best guide to the meaning of a disputed term," it is improper to import limitations from the specification, such as the embodiments described there. Phillips, 415 F.3d at 1315, 1323-27. The language of "[o]ther claims of the patent in question, both asserted and unasserted," can "illuminate the meaning of the same term in other claims" because "claim terms are normally used consistently throughout the patent . . . ." Id. at 1314. "Differences among claims can also be a useful guide in understanding the meaning of particular claim terms." Id. "For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." Id. at 1314-15. Courts also generally presume that "different terms have different meanings." PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC, 815 F.3d 747, 752 (Fed. Cir. 2016) (quotations omitted).

Prosecution history "may be critical in interpreting disputed claim terms because it contains the complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims." Personalized Media, 952 F.3d at 1340 (quotations omitted). "Accordingly, even where

prosecution history statements do not rise to the level of unmistakable disavowal, they do inform the claim construction.” Id. (quotations omitted). “For example, an applicant’s repeated and consistent remarks during prosecution can define a claim term by demonstrating how the inventor understood the invention.” Id. “Similarly, an applicant’s amendment accompanied by explanatory remarks can define a claim term by demonstrating what the applicant meant by the amendment.” Id.

Extrinsic evidence, although “less significant” and “less reliable” than intrinsic evidence, “can shed useful light on the relevant art.” Phillips, 415 F.3d at 1317, 1318 (quotations omitted). Because dictionaries and treatises “endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention.” Id. at 1318. Similarly, expert testimony can “provide background on the technology at issue,” “explain how an invention works,” “ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art,” and “establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” Id. At all

events, courts cannot rely on extrinsic evidence that contradicts the intrinsic record. Id. at 1324.

#### **B. Indefiniteness**

The definiteness requirement of title 35, section 112 of the United States Code mandates that a specification “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.” 35 U.S.C. § 112(b).<sup>1</sup> This requirement entails a “delicate balance” between “the inherent limitations of language” and the need to “be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them.” Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 909 (2014) (brackets and quotations omitted). “[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” Id. at 901. “The definiteness requirement,

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<sup>1</sup> Title 35, section 112 of the United States Code was amended and its subsections were renamed by the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, which took effect on September 16, 2012. This Court therefore refers to the pre-amendment version of the statute, 35 U.S.C. § 112, ¶ 2, for the ‘776 Patent (filed February 23, 2012), and to the post-amendment version, 35 U.S.C. § 112(b), for the ‘413 Patent (filed April 12, 2013). See Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 902 n.1 (2014).

so understood, mandates clarity, while recognizing that absolute precision is unattainable.” *Id.* at 910.

“Indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction.” *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008). The party asserting indefiniteness must prove it by clear and convincing evidence. See *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017); *Dow Chem. Co. v. Nova Chemicals Corp. (Can.)*, 809 F.3d 1223, 1224-25 (Fed. Cir. 2015) (Prost, C.J., and Newman, Dyk, Moore, O’Malley, Wallach, Chen, and Taranto, JJ., concurring in denial of petition for rehearing en banc).

A claim may be indefinite for lack of antecedent basis when it employs a definite article without first introducing the indefinite article. See *Lack of Antecedent Basis*, MPEP § 2173.05(e) (9th ed. Rev. 10.2019, June 2020) (“The lack of clarity could arise where a claim refers to ‘said lever’ or ‘the lever,’ where the claim contains no earlier recitation or limitation of a lever and where it would be unclear as to what element the limitation was making reference. Similarly, if two different levers are recited earlier in the claim, the recitation of ‘said lever’ in the same or subsequent claim would be unclear where it is uncertain which of the two levers was

intended.”). “When the meaning of the claim would reasonably be understood by persons of ordinary skill when read in light of the specification,” however, “the claim is not subject to invalidity upon departure from the protocol of ‘antecedent basis.’” Energizer Holdings, Inc. v. Int’l Trade Comm’n, 435 F.3d 1366, 1370 (Fed. Cir. 2006).

### **III. ANALYSIS**

#### **A. ‘413 Patent**

##### **1. JCCS Term 1: “an annular member”**

Siemens asks this Court to give JCCS Term 1 of the ‘413 Patent its plain and ordinary meaning and to provide no further construction. JCCS 2. GE urges this Court to construe JCCS Term 1 of the ‘413 Patent as “a part of the rotor hub contained within the hollow shell.” Id. This Court construes JCCS Term 1 of the ‘413 Patent as “an annular member of the rotor hub.”

The parties’ dispute raises two questions: whether “an annular member” must be (1) “a part of the rotor hub” and (2) “contained within the hollow shell.” See Def.’s Br. 12-13.

As to the first question, because the parties have agreed that the preamble to claim 1 of the ‘413 Patent is limiting, see JCCS 1, the rotor hub of claim 1 necessarily comprises the annular member, see ‘413 Patent col. 11, ll. 27, 29 (“A rotor hub for a wind turbine, comprising . . . an annular member . . .”). Other claims confirm that the annular member

is "of the rotor hub." See id. col. 11, ll. 53, 55 (claim 5) ("A rotor hub for a wind turbine, comprising . . . an annular member . . . ."), col. 12, ll. 30-32 (claim 9) ("The wind turbine as claimed in claim 8, wherein an outer ring of the bearing is firmly connected to or integral with the annular member of the rotor hub . . . ."). The prosecution history is in accord. See Def.'s Resp. 6 (citing Def.'s Br., Ex. 4, Resp. European Patent Office Action ("EPO Resp.") 12, ECF No. 90-4 (Siemens' representation to the European Patent Office that one of the "distinguishing features" of the invention is that "an outer ring of at least one bearing is integral with an annular member of a rotor hub").

As to the second question, claim 1 of the '413 Patent recites that the annular member "protrudes inwards into the interior of the rotor hub," '413 Patent col. 11, ll. 35-36 (emphasis added), not that the annular member is "contained within the hollow shell," JCCS 2 (emphasis added). GE's conflation is significant. According to the embodiments, the annular member may be both partially inside and partially outside the hollow shell. See '413 Patent figs. 8, 11, 12, 14. GE's proposal thus would exclude a preferred embodiment, a result which "is rarely, if ever, correct." See Globetrotter Software, Inc. v. Elan Comput. Grp., Inc., 362 F.3d 1367, 1381 (Fed. Cir. 2004).

Accordingly, this Court construes JCCS Term 1 of the '413 Patent as "an annular member of the rotor hub."

**2. JCCS Term 2: "rotor hub"**

Siemens asks this Court to give JCCS Term 2 of the '413 Patent its plain and ordinary meaning and to provide no further construction. JCCS 2. GE urges this Court to construe JCCS Term 2 of the '413 Patent as "rotor hub having an annular member." Id. Otherwise, according to GE, claim 9 of the '413 Patent is indefinite. Id. This Court construes JCCS Term 2 of the '413 Patent as "rotor hub having an annular member," and it does not reach the question of definiteness.

The parties' dispute raises the question whether the "rotor hub" described in independent claim 8 of the '413 Patent must "hav[e] an annular member." See Def.'s Br. 16-17. The Court answers this question in the affirmative.

The specification teaches that "[t]he main difference of the rotor hub 102 according to the first embodiment of the invention and the conventional rotor hub 2 according to prior art is an annular member 117." '413 Patent col. 7, ll. 30-33. This teaching is explicitly limited by the phrase "according to the first embodiment," however, so the Court cannot import it into the claims. See Phillips, 415 F.3d at 1323-27. The same is true of the other embodiments. See id.

The claim language is similarly unenlightening. Whereas independent claim 1 recites “[a] rotor hub for a wind turbine, comprising . . . an annular member,” ‘413 Patent col. 11, ll. 27, 29, independent claim 8 recites “[a] wind turbine, comprising . . . a rotor hub,” with no mention of an annular member, id. col. 12, ll. 10, 13. Claim 9, which depends from claim 8, recites, “The wind turbine as claimed in claim 8, wherein an outer ring of the bearing is firmly connected to or integral with the annular member of the rotor hub . . .” Id. col. 12, ll. 30-32. The parties appear to disagree whether this language requires the rotor hub to have an annular member or instead merely permits the rotor hub to have an annular member. Compare generally Def.’s Suppl. Br., and Def.’s Suppl. Resp., with Pl.’s Suppl. Br., and Pl.’s Suppl. Resp.

The prosecution history indicates that JCCS Term 2 of the ‘413 Patent requires the rotor hub to have an annular member. Siemens represented to the European Patent Office that one of the “distinguishing features” of the invention is that “an outer ring of at least one bearing is integral with an annular member of a rotor hub.” EPO Resp. 12. Siemens credibly distinguishes the ‘413 Patent in other ways, such as by pointing to “the [at] least two bearings within the interior of the rotor hub,” and arguing that “unlike claim 8, there was no claim in the European patent . . . directed to just the ‘bearing within the interior

of the rotor hub' arrangement found in claim 8." Pl.'s Suppl. Resp. 6. Yet this is not the Court's primary focus. Rather, this Court primarily is focused on "consider[ing] statements made before a foreign patent office when construing claims if they are relevant and not related to unique aspects of foreign patent law." See Apple Inc. v. Motorola, Inc., 757 F.3d 1286, 1312 (Fed. Cir. 2014), overruled on other grounds by Williamson v. Citrix Online, LLC, 792 F.3d 1339 (Fed. Cir. 2015) (en banc). This is because "even where prosecution history statements do not rise to the level of unmistakable disavowal, they do inform the claim construction." Personalized Media, 952 F.3d at 1340 (quotations omitted).

Contrary to Siemens' suggestion, Pl.'s Suppl. Br. 6, nothing limited its representation to any one claim; its statement regarded the entire invention. Accordingly, this Court construes JCCS Term 2 of the '413 Patent as "rotor hub having an annular member," and it does not reach the question of definiteness. See JCCS 2 (GE proposing "rotor hub having an annular member" and stating that "[t]o the extent construed otherwise, claim 9 is indefinite under § 112" (emphasis added)).

### **3. JCCS Term 3: "the bearing"**

Siemens asks this Court to give JCCS Term 3 of the '413 Patent its plain and ordinary meaning and to provide no further construction. JCCS 2. GE contends that JCCS Term 3 of the '413

Patent is indefinite. Id. "Otherwise," according to GE, "the antecedent basis for 'the bearing' is 'a bearing.'" Id. This Court rejects GE's indefiniteness challenge and rules that the antecedent basis for "the bearing" is "a bearing."

GE fails to prove by clear and convincing evidence that a person of ordinary skill in the art would not understand the scope of JCCS Term 3 of the '413 Patent. See Nautilus, 572 U.S. at 901; Sonix, 844 F.3d at 1377. GE attempts to introduce ambiguity where there is none by arguing that "the bearing" in claim 8 lacks an antecedent basis. See Def.'s Br. 20; Def.'s Resp. 12 (quoting Bushnell Hawthorne, LLC v. Cisco Sys., Inc., 813 F. App'x 522, 525 (Fed. Cir. 2020) (nonprecedential) ("[T]he antecedent basis for 'said different IP Address' is unclear -- possibly referring to any of three types of IP addresses that claim 1's fifth processor might supply: 'one or more IP Addresses,' 'one or more second IP Addresses,' or 'one or more third IP Addresses.'")). As Siemens correctly points out, Pl.'s Br. 14, the antecedent basis for "the bearing" is "a bearing," found one line prior in claim 8, see '413 Patent col. 12, ll. 18-19. In turn, GE's alternative position -- that "the antecedent basis for 'the bearing' is 'a bearing,'" -- is correct. See JCCS 2.

GE responds that the term "at least two bearings" likewise renders JCCS Term 3 of the '413 Patent indefinite. Def.'s Br.

20; Def.'s Resp. 12. Not so. The term "at least two bearings" appears only after JCCS Term 3 of the '413 Patent. See '413 Patent col. 12, l. 19 ("the bearing"), col. 12, l. 23 ("at least two bearings"). GE's argument that a later term could serve as the antecedent basis for JCCS Term 3 of the '413 Patent is unavailing. Extrinsic evidence confirms this. See Pl.'s Br., Ex. F, Decl. Timothy L. Morse, Ph.D., P.E., CFEI U.S. Patent Nos. 8,575,776 & 9,279,413 ("Morse Decl.") ¶ 41, ECF No. 91-6 ("It is clear to me, and would be clear to a [person of ordinary skill in the art], that the reference to 'the bearing' refers to the term 'a bearing' that was introduced earlier in the claim." (emphasis added)).

Accordingly, this Court rejects GE's indefiniteness challenge and rules that the antecedent basis for "the bearing" is "a bearing."

**4. JCCS Term 4: "at least two bearings"/"the two bearings"/"the at least two bearings"**

Siemens asks this Court to give JCCS Term 4 of the '413 Patent its plain and ordinary meaning and to provide no further construction. JCCS 2. GE contends that JCCS Term 4 of the '413 Patent is indefinite. Id. "Otherwise," according to GE, claim 8 of the '413 Patent involves "at least two bearings in addition to 'the bearing' recited in the claim, for a total of at least

three bearings." Id. This Court rejects GE's indefiniteness challenge and rules that only two bearings are required.

The parties' dispute raises two questions: (1) how many bearings are required to practice claim 8 and (2) whether "the two bearings" lack an antecedent basis and thus render claim 8 indefinite. See Def.'s Br. 19.

As to the first question, GE argues that claim 8 requires three bearings, id., whereas Siemens contends that claim 8 requires only at least two, Pl.'s Br. 15. The intrinsic and extrinsic records support Siemens' position. The specification describes seven embodiments, three of which show one bearing, and four of which show two bearings. See '413 Patent figs. 3-6, 9-10, 15 (referring to only two bearings, "113" and "121"). None of the embodiments shows three bearings. See id. The prosecution history likewise does not indicate that the patentee intended to claim a three-bearing invention or disavowed a two-bearing invention. See generally EPO Resp. (referring to only two bearings, "113" and "121").

Contrary to GE's contention, see Def.'s Br. 19 (citing Def.'s Br., Ex. 5, Remote Dep. Oral Examination Kim Thomsen 31:23-25, 32:1-7, ECF No. 90-5 (attesting to general work experience with one-bearing systems, two-bearing systems, and three-bearing systems)), post-filing inventor testimony does not compel such a result, see E-Pass Techs., Inc. v. 3Com Corp., 343

F.3d 1364, 1370 n.5 (Fed. Cir. 2003) ("[T]his court has often repeated that inventor testimony is of little probative value for purposes of claim construction."). Other extrinsic evidence is in accord. See Pl.'s Resp., Ex. H, Pet. Inter Partes Review U.S. Patent No. 9,279,413 Challenging Claims 1-4, 8-12, & 14 35 U.S.C. § 312 & 37 C.F.R. § 42.104 50-53, ECF No. 99-1 (GE arguing that prior art with only two bearings invalidates the '413 Patent). A person of ordinary skill in the art therefore "would not understand claim 8 to require three bearings . . ." Morse Decl. ¶ 44.

Accordingly, to adopt GE's proposal would be to insert a limitation which does not appear. See Ecolab, Inc. v. FMC Corp., 569 F.3d 1335, 1344 (Fed. Cir.) ("It is likewise well-settled that courts generally may not re-draft claims; we must construe the claims as written."), amended on reh'g in part, 366 F. App'x 154 (Fed. Cir. 2009) (nonprecedential). This Court therefore rules that only two bearings are required.

As to the second question, GE fails to prove by clear and convincing evidence that the absence of an explicit antecedent basis for "the two bearings" renders JCCS Term 4 of the '413 Patent indefinite. See Nautilus, 572 U.S. at 901; Sonix, 844 F.3d at 1377. GE's confusion stems from the false premise that claim 8 requires three bearings. With the contextual understanding that claim 8 requires only two bearings, the

antecedent-basis problem dissipates. See Energizer, 435 F.3d at 1370 (“Whether this claim, despite lack of explicit antecedent basis for ‘said zinc anode,’ nonetheless has a reasonably ascertainable meaning must be decided in context.”).

An example illustrates the point. Assume that the term “a bearing” is denoted “**A**. ” The subsequent term “the bearing” thus refers to the antecedent basis **A**. Because the intrinsic record supports only two bearings, and because bearing **A** exists, only one more bearing can exist: bearing “**B**. ” The later term “at least two bearings” therefore must refer to **A** and **B**. The last term at issue, “at least one of the two bearings,” which GE shortens to “the two bearings,” see Def.’s Br. 18-19; Def.’s Resp. 12-13, consequently must refer to just **A**, just **B**, or both **A** and **B**.

GE responds that this logic would render superfluous the limitation “wherein the rotor hub is rotatably mounted to the stationary main shaft via a bearing” because a later limitation recites, “wherein the rotor hub is rotably mounted to the stationary main shaft via at least two bearings. ” Def.’s Resp. 14 (emphasis added) (citing Mformation Techs., Inc. v. Research in Motion Ltd., 764 F.3d 1392, 1399 (Fed. Cir. 2014)). Not so. The first limitation describes **A**, and the second limitation describes **A** and **B**.

Accordingly, this Court rejects GE's indefiniteness challenge and rules that only two bearings are required.

**B. '776 Patent**

**1. JCCS Term 1: "a circular inner base structure"**

Siemens asks this Court to give JCCS Term 1 of the '776 Patent its plain and ordinary meaning and to provide no further construction. JCCS 3. GE urges this Court to construe JCCS Term 1 of the '776 Patent as "a rigid structure in the shape of a circle that provides base support for the plurality of connection structures, the circular outer base structure, and the stator coils." Id. This Court construes JCCS Term 1 of the '776 Patent as "an inner base structure in the shape of a circle."

The parties' dispute raises three questions: whether "a circular inner base structure" must (1) be "rigid," (2) "provide base support for the plurality of connection structures, the circular outer base structure, and the stator coils," and (3) be "in the shape of a circle." See Def.'s Br. 5.

**a. "rigid"**

GE argues that the specification disclaims the full scope of JCCS Term 1 of the '776 Patent, requiring "a circular inner base structure" to be "rigid." See Def.'s Br. 5-6 (citing Pacing Techs. LLC v. Garmin Int'l, Inc., 778 F.3d 1021, 1024 (Fed. Cir. 2015)). This argument is based on four sentences in

the specification: “[I]t is important that the stator support structure is very rigid,” ‘776 Patent col. 1, ll. 29-30 (emphasis added); “It is therefore an object of the present invention to provide a wind turbine with a generator with a rigid stator support structure,” id. col. 1, ll. 36-38 (emphasis added); “The invention is based on the idea that an advantageous mechanical stator structure can be obtained when the stator support structure consists of said components, which can be assembled easily and which calm a very rigid and stable stator support structure,” id. col. 1, ll. 45-49 (emphasis added); and “Accordingly the stator support structure is very rigid and able to withstand all forces during operation of the inventive wind turbine,” id. col. 1, ll. 55-57 (emphasis added).

As the added emphases reveal, GE’s argument fails for a simple reason: the specification mentions rigidity only with respect to the specification-recited “stator support structure,” but not with respect to the claim-recited “circular inner base structure.” There is no intrinsic or extrinsic basis to conclude that these terms are synonymous. This Court therefore sees no reason to depart from the “general assumption . . . that different terms have different meanings.” See PPC Broadband, 815 F.3d at 752.

To the extent that GE suggests that the circular inner base structure is rigid because it is a component of the stator

support structure, the record is at best ambiguous on that point, and “[a]mbiguous language cannot support disavowal.” See Poly-Am., L.P. v. API Indus., Inc., 839 F.3d 1131, 1136 (Fed. Cir. 2016). On this record, GE has not shown a “clear and unmistakable disclaimer” requiring JCCS Term 1 of the ‘776 Patent to be “rigid.” See Thorner, 669 F.3d at 1366-67.

**b. “provides base support for the plurality of connection structures, the circular outer base structure, and the stator coils”**

GE contends that JCCS Term 1 of the ‘776 Patent must “provide[] base support for the plurality of connection structures, the circular outer base structure, and the stator coils.” JCCS 3. This contention is based on five sentences in the specification. See Def.’s Br. 6. One which describes figure 2 is inapposite, as it explains that “[o]n the inner protruding flanges 10” -- rather than on the “circular inner base structure” at issue here -- “circular connection structures 12, 13 are mounted.” See ‘776 Patent col. 2, ll. 53-55.

The other four sentences suffer from a similar flaw: they describe a “base structure,” but not necessarily the “circular inner base structure” of JCCS Term 1 of the ‘776 Patent. See id. col. 1, ll. 41-43 (“[T]he stator support structure comprises a base structure on which circular connection structures are mounted with their inner perimeter . . .” (emphasis added)), col. 1, ll. 50-52 (“The stator support structure of the

inventive wind turbine with a generator comprises a base structure which renders the base structure particular stable.” (emphasis added)), col. 1, ll. 52-53 (“On the base structure connection structures are mounted . . . .” (emphasis added)), col. 1, ll. 59-61 (“The base structure of the inventive wind turbine may comprise radially protruding flanges on which the connection structures are mounted.” (emphasis added)).

There is no intrinsic or extrinsic basis to conclude that the specification-recited “base structure” refers only to the claim-recited “circular inner base structure.” Rather, it appears that the “base structure” may refer to two distinct structures, “a circular outer base structure” and “a circular inner base structure.” See id. col. 3, l. 25, col. 3, ll. 31-32, col. 3, ll. 33-35, col. 4, ll. 1-5 (emphasis added) (claim 1) (“A wind turbine with a generator, comprising . . . a circular inner base structure; a circular outer base structure . . . and a plurality of connection structures, each of the plurality of connection structure separated axially and radially extending between the circular inner base structure and the circular outer base structure forming a hollow chamber between the circular inner base structure, outer base structure and the plurality of connection structures . . . .”), col. 4, ll. 23-26 (claim 5) (“The wind turbine according to claim 1, wherein the plurality of connection structures are connected to

the circular inner base structure and/or the circular outer base structure by bolted connections."), col. 4, ll. 27-30 (claim 6) ("The wind turbine according to claim 1, wherein the plurality of connection structures are connected to the circular inner base structure and/or the circular outer base structure by welding."). There is likewise no basis to conclude that the "circular inner base structure," see JCCS 3, "provides base support for . . . the circular outer base structure," see generally '776 Patent.

To cinch the matter, it is on the "circular outer base structure" on which "the stator coils are mounted." Id. col. 3, ll. 25, 32-33 (claim 1) ("A wind turbine with a generator, comprising . . . a circular outer base structure on which the stator coils are mounted . . ."). This Court therefore rejects GE's contention.

**c. "in the shape of a circle"**

Whereas GE proposes construing "circular" in the context of JCCS Term 1 of the '776 Patent as "in the shape of a circle," Siemens suggests no construction. JCCS 3. Contrary to Siemens' suggestion, see Pl.'s Br. 16-17; Pl.'s Resp. 4-5, because the parties dispute the plain and ordinary meaning of "circular" in the context of JCCS Term 1 of the '776 Patent,<sup>2</sup> this Court cannot

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<sup>2</sup> This chart, taken from GE's opening brief, illustrates the parties' dispute.

instruct the jury to give the term its plain and ordinary meaning, see Eon Corp., 815 F.3d at 1318-20 (citing O2 Micro, 521 F.3d at 1360-62). Rather, this Court must construe it. See NobelBiz, 701 F. App'x at 997.

GE's position finds no support in the intrinsic record. First, GE cites figure 2. Def.'s Br. 5. This embodiment, however, indicates only that a "base structure" -- not necessarily the "inner base structure" -- is "formed as a circular ring," '776 Patent col. 2, l. 50, and in any event, claims are not confined to the specification's embodiments, see Phillips, 415 F.3d at 1323-27. GE's second citation, to the specification's statement that "[o]n the base structure connection structures are mounted with a circular shape," Def.'s Br. 6 (citing '776 Patent col. 1, ll. 52-54), similarly describes the connection structures (which, again, are mounted on the base structure -- not necessarily on the circular inner base structure) rather than the circular inner base structure.

<u>"circular inner base structure"</u>	
GE's position (rigid structure in the shape of a circle)	SGRE's position (series of structures arranged circumferentially around the axis of rotation)
	

Def.'s Br. 8. GE's position is that "a circular inner base structure" must be one structure in the shape of a circle. See id. Siemens' position is that "a circular inner base structure" may include a series of structures arranged in a circle. See id.

Finding no support in the intrinsic record, GE turns to the extrinsic record. GE's preferred dictionary defines "circular" as "having the form of a circle." Def.'s Br., Ex. 1, Merriam-Webster's Collegiate Dictionary 224 (11th ed. 2011), ECF No. 90-1. Other dictionaries are in accord. See, e.g., Webster's Third New Int'l Dictionary 409 (Philip Babcock Gove ed., 3d ed. 2002) (defining "circular" as "having the exact or approximate form or outline of a circle"). GE's expert likewise attests that a person of ordinary skill in the art "would appreciate that the 'circular inner base structure' must be formed in the shape of a circle . . ." Def.'s Br., Ex. 2, Decl. Alexander H. Slocum ("Slocum Decl.") ¶ 39, ECF No. 90-2.

GE's extrinsic evidence is weak, but it does not contradict the intrinsic record, and Siemens neither discredits nor counters it. Accordingly, this Court construes JCCS Term 1 of the '776 Patent as "an inner base structure in the shape of a circle."

## **2. JCCS Term 2: "connection structures"**

Siemens asks this Court to give JCCS Term 2 of the '776 Patent its plain and ordinary meaning and to provide no further construction. JCCS 3. GE urges this Court to construe JCCS Term 2 of the '776 Patent "solid circular connection rings." Id. This Court rules that JCCS Term 2 of the '776 Patent need

not be “circular” or “solid rings,” and it declines further to construe the term.

The parties’ dispute raises two questions: whether the “connection structures” must be (1) “circular” and (2) “solid rings.” See Def.’s Br. 8.

As to the first question, GE correctly points out that the specification repeatedly refers to the “connection structures” as “circular” or in “a circular shape.” Def.’s Br. 8 (citing ‘776 Patent). Nevertheless, JCCS Term 2 of the ‘776 need not be circular for two reasons. First, the specification describes an embodiment in which the connection structures are “C-shaped” rather than circular. ‘776 Patent col. 3, ll. 20-21. The ‘776 Patent “contrast[s]” this embodiment with another, see id. col. 3, l. 18, assigning different numeric identifiers to their respective connection structures, compare id. col. 2, ll. 55-57 (“The connection structure 12, 13 are circular rings which are connected to the protruding flanges 10 by nuts and bolts.” (emphasis added)), with id. col. 3, ll. 18-22 (“In contrast to the first embodiment no inner protruding flanges are present, instead connection structures 17, 18 are used which are C-shaped and fixed to the base structure 16 by bolted connections 19.” (emphasis added)). GE’s own expert concedes that the connection structures may be “arc shaped” rather than circular. Slocum Decl. ¶ 43. To construe all connection structures as circular

thus would exclude this preferred embodiment, a result which "is rarely, if ever, correct." See Globetrotter, 362 F.3d at 1381. GE further contends that its diagrammatic "perspective view of '776 patent, Fig. 3" reveals that the C-shaped connection structures are indeed circular. See Def.'s Resp. 17-18. This argument fails because GE has adduced no persuasive evidence to establish that the '776 Patent uses different words (here, "circular" and "C-shaped") to mean the same thing ("circular"). See PPC Broadband, 815 F.3d at 752.

Second, GE's proposal would render dependent claim 3 redundant. Claim 3 recites, "The wind turbine according to claim 2, wherein the plurality of connection structures are circular." '776 Patent col. 4, ll. 14-15. If the connection structures of independent claim 1 necessarily were circular, dependent claim 3 would be rendered meaningless. This would contravene the canon that "the presence of a dependent claim that adds a particular limitation," here "circular" in claim 3, "gives rise to a presumption that the limitation in question is not present in the independent claim," here claim 1. See Phillips, 415 F.3d at 1315. Accordingly, JCCS Term 2 of the '776 Patent need not be "circular."

As to the second question, GE attempts to find intrinsic support in the embodiments and a sentence in the specification which describes connection structures 12 and 13 as "circular

rings." Def.'s Br. 9 (citing '776 Patent figs. 1-3, col. 2, ll. 55-56). With respect to shape, this attempt fails for the reason just discussed: the connection structures of claim 1 refer also to connection structures 17 and 18, which are C-shaped rather than ring-shaped. See '776 Patent fig. 3, col. 3, ll. 18-22. This Court therefore declines to exclude this preferred embodiment. See Globetrotter, 362 F.3d at 1381. GE's citations to other parts of the specification which describe the arrangement of the connection structures to create a hollow chamber and to mount on the base structure, see Def.'s Br. 9-10; Def.'s Resp. 17, likewise do not require the connection structures to have a specific shape. The same is true of solidity. The '776 Patent never describes the solidity of the connection structures, and the embodiments are similarly unenlightening. See generally '776 Patent.

Finding no support in the intrinsic record, GE turns to the extrinsic record. See Def.'s Resp. 17. From this vantage, GE suggests that in opposition to its petition for inter partes review, Siemens "had no trouble interpreting 'solid' . . . 'to mean unbroken or uninterrupted walls that connect the inner and outer base structure.'" Id. (quoting Def.'s Resp., Ex. C, Patent Owner's Prelim. Resp., Case IPR2021-00723 (PTAB) ("IPR Resp.") 29, ECF No. 100-3). The full quotation reads, "It appears that Petitioner [GE] interprets its construction, and

particularly, its use of the word 'solid' to mean unbroken or uninterrupted walls that connect the inner and outer base structures." IPR Resp. 29 (emphasis added). Siemens never interpreted "solid" this way; indeed, Siemens disagreed with this interpretation. See id. ("The Petition, however, nowhere demonstrates that, for example, the Klinger reference's supposed 'connection structures' are unbroken or uninterrupted walls.").

This Court declines further to construe JCCS Term 2 of the '776 Patent because it has resolved the parties' dispute regarding shape and solidity. See O2 Micro, 521 F.3d at 1360-62. It suffices to rule that JCCS Term 2 of the '776 Patent need not be "circular" or "solid rings," and that no further construction is necessary. See Summit 6, 802 F.3d at 1291; Phillips, 415 F.3d at 1314.

### **3. JCCS Term 3: "hollow chamber"**

Siemens asks this Court to give JCCS Term 3 of the '776 Patent its plain and ordinary meaning and to provide no further construction. JCCS 3. GE urges this Court to construe JCCS Term 3 of the '776 Patent as "enclosed empty space." Id. At the Markman hearing, the parties accepted the construction "empty space" but continued to dispute whether the empty space must be "enclosed." See Tr. Markman Hr'g 38-41. The Court answers this question in the negative.

For intrinsic support, GE points to one sentence from the specification, one sentence from claim 1, and one embodiment.

Id. The sentence from the specification provides, "Accordingly the connection structures are spaced apart in a predetermined distance so that a hollow chamber is formed within the stator support structure." '776 Patent col. 1, ll. 64-67. The sentence from claim 1 reads in pertinent part, "extending between the circular inner base structure and the circular outer base structure forming a hollow chamber between the circular inner base structure, outer base structure and the plurality of connection structures . . . ." Id. col. 4, ll. 1-5. These sentences say nothing about whether the hollow chamber is enclosed.

GE responds that read in context with figure 2, which shows that the hollow chamber is surrounded by a base structure, connection structures, and stator base structure, the hollow chamber must be enclosed. Def.'s Br. 11. Review of the intrinsic record belies GE's position. Figure 2 shows that the connection structures may have holes, see '776 Patent fig. 2, and the specification and claim 1 indicate that the hollow chamber may be "ventilated," id. col. 2, ll. 20-22 ("As mentioned above the base structure, the circular connection structures and the stator base structure may form a hollow chamber, which may be ventilated . . . ."), col. 4, l. 6 (claim

1) ("[W]herein the hollow chamber is ventilated . . . ."). To construe JCCS Term 3 of the '776 Patent to be enclosed therefore would exclude these preferred embodiments, a result which "is rarely, if ever, correct." See Globetrotter, 362 F.3d at 1381.

Accordingly, this Court construes JCCS Term 3 of the '776 Patent as "empty space."

**IV. CONCLUSION**

This Court sets forth its constructions below.

**SO ORDERED.**

/s/ William G. Young  
WILLIAM G. YOUNG  
JUDGE  
of the  
UNITED STATES<sup>3</sup>

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<sup>3</sup> This is how my predecessor, Peleg Sprague (D. Mass. 1841-1865), would sign official documents. Now that I'm a Senior District Judge I adopt this format in honor of all the judicial colleagues, state and federal, with whom I have had the privilege to serve over the past 43 years.

U.S. PATENT NO. 9,279,413				
TERM	PATENT CLAIMS	SGRE'S CONSTRUCTION	GE'S CONSTRUCTION	COURT'S CONSTRUCTION
1. "an annular member"	Claims 1-4	No construction necessary; plain and ordinary meaning	"a part of the rotor hub contained within the hollow shell"	"an annular member of the rotor hub"
2. "rotor hub"	Claims 8, 9, 11, 13	No construction necessary; plain and ordinary meaning  Definite.	"rotor hub having an annular member"  To the extent construed otherwise, claim 9 is indefinite under § 112	"rotor hub having an annular member"
3. "the bearing"	Claims 8, 9, 10, 12, 13	Definite  No construction necessary; plain and ordinary meaning	Indefinite under § 112  Otherwise, the antecedent basis for "the bearing" is "a bearing"	Definite.  The antecedent basis for "the bearing" is "a bearing."
4. "at least two bearings" / "the two bearings" / "the at least two bearings"	Claim 8	Definite  No construction necessary; plain and ordinary meaning	Indefinite under § 112  Otherwise, "at least two bearings in addition to 'the bearing' recited in the claim, for a total of at least three bearings"	Definite.  Only two bearings are required.

U.S. PATENT NO. 8,575,776				
TERM	PATENT CLAIMS	SGRE'S CONSTRUCTION	GE'S CONSTRUCTION	COURT'S CONSTRUCTION
1. "a circular inner base structure"	Claim 1	No construction necessary; plain and ordinary meaning	"a rigid structure in the shape of a circle that provides base support for the plurality of connection structures, the circular outer base structure, and the stator coils"	"an inner base structure in the shape of a circle"
2. "connection structures"	Claim 1	No construction necessary; plain and ordinary meaning	"solid circular connection rings"	Need not be "circular" or "solid rings."  No further construction necessary.
3. "hollow chamber"	Claim 1	No construction necessary; plain and ordinary meaning	"enclosed empty space"	"empty space"